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Serial Number 10/712,104

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Amendments to Claims

Claim 1 has been amended to recite that:

- the entire cluster router appears to external communications networks and nodes as a single network attached router, as described in paragraph [80] of the original specification;
- the special purpose router cluster nodes are connected in the lattice of the cluster router, as described for example in paragraphs [70], [72], and [73] of the original specification; and
- the cluster-node-centric cluster router node configurations take into account the fact that the special purpose cluster nodes cannot be counted on to be aware of, or be configured via, the distributed cluster-node-centric router cluster node configuration, as described in the last sentence of paragraph [76] of the original specification.

In addition, the "reduction in development. . ." clause at the end of claim 1 has been deleted and claims 17 and 26 have been amended to clarify that the "equivalency" of the router cluster nodes has to do with the inclusion, in each of the router cluster nodes, of at least one external link, as explained in the last two sentences of paragraph [57] of the original specification.

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2. "Enablement Issues"

In item 4 of the Official Action, the Examiner mentions several "enablement issues" without actually rejecting the claims.

Although the Applicant disagrees that any of the claim limitations lack enablement, the "providing a reduction" recitation in claim 1 and the "computer platform providing flexibility and cost savings. . ." in claim 17 have been canceled.

In addition, the special purpose router cluster node of claim 1 has been defined in the claim as a router cluster node in the lattice of the cluster router that provides packet routing functionality not provided by others of the router cluster nodes and that, unlike the other router cluster nodes, "cannot be counted on to perform routing functions performed by others of said router cluster nodes," thereby addressing the statement in the Official Action that "it is unclear as to what constitutes a special purpose router entails as opposed to a normal router."

Finally, it is noted that the specification lists a number of "packet response processing functionalities" including but not limited to "billing, encryption, decryption, stream encoding/decoding, video stream processing, authentication, directory services, etc." paragraph [69], lines 1-5, which are all covered by the phrase "special packet processing functionality" as used in claim 1.

Serial Number 10/712,104**3. Rejection of Claims 1-4, 7, 12-20, and 25-36 Under 35 USC §102(b) in view of U.S. Patent No. 7,146,421 (Syvanne)**

This rejection is respectfully traversed on the grounds that the Syvanne patent does not disclose or suggest that:

- any of the router cluster nodes in the lattice are special purpose router cluster nodes arranged to perform special packet processing functions not performed by other nodes, and that the configuration distributed to each cluster node take into account “that said at least one special purpose router cluster node cannot be counted on to be aware of, or be configured via, said distributed cluster-node-centric router cluster node configuration,” as recited in **claim 1** (Syvanne’s nodes all appear to have the same routing functions, and there is no suggestion that the node configuration distributed to the nodes should take into account that at least one of the nodes in the cluster cannot be counted on to perform the routing functions of the other nodes (and therefore may need to be by-passed during internal routing); and
- each of the router cluster nodes have *external links* in addition to the internal links between cluster nodes, as recited in original **claim 1** and **amended claims 17 and 26** (it is the inclusion of *external links* in each router that provides true scalability—which feature is not suggested by Syvanne).

Neither the claimed special purpose router cluster nodes, which are nodes in the router lattice that perform packet processing functions other than routing, nor the claimed external links in each router cluster node, as even remotely disclosed or suggested by the Syvanne patent.

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The use of special purpose nodes that do not perform all routing functions is actually counterintuitive since one would expect routing efficiency to improve by using routers that all have an optimized, or at least the same, routing function. Certainly, Syvanne does not suggest inclusion of such special purpose router cluster nodes within a cluster, as recited in claim 1. It is only with the hindsight provided by Applicant's own specification that the advantages of the special purpose router cluster node(s) become apparent, namely that packets only need to be routed through the special purpose router as necessary to meet special needs, such as video handling or encryption/description, and that the use of special purpose router cluster nodes can therefore eliminate redundant processing capabilities with a minimal affect on overall routing capacity.

The feature of including an external link in each router, which makes each router truly equivalent by eliminating the inherent distinction between edge and core or internal nodes, so that each router cluster node may act as an entry, core, and/or exit router cluster node with respect to the packet traffic processed by the cluster router, has the advantage of greatly simplifying cluster configuration and of providing for true scalability (meaning that an arbitrary number of additional router cluster nodes may be added while using the same basic configuration of each node and corresponding management functions). Nothing in the Syvanne patent appears to suggest a cluster router that eliminates the distinction between edge and core routers, and therefore Syvanne does not anticipate any of independent claims 1, 17, and 26, from which all of the claims of the application depend.

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Because the Syvanne patent does not disclose all elements recited in claims corresponding 1-4, 7, 12-20, and 25-36, withdrawal of the rejection under 35 USC §102(b) is respectfully requested.

4. Rejection of Claims 5, 6, 11, and 21 Under 35 USC §103(a) in view of U.S. Patent Nos. 7,146,421 (Syvanne) and 7,170,895 (Wirth)

This rejection is respectfully traversed on the grounds that the Wirth patent, like the Syvanne patent, does not disclose or suggest that (a) any of the router cluster nodes in the lattice are special purpose router cluster nodes arranged to perform special packet processing functions not performed by other nodes, and (b) that each of the router cluster nodes have *external* links in addition to the internal links between cluster nodes, as recited in claims 1 and 17, from which claims 5, 6, 11, and 21 depend. Instead, while Wirth discloses a "toroidal mesh," the nodes have separate external interfaces and switching units, and no special packet processing nodes. Therefore, withdrawal of the rejection of claims 5, 6, 11, and 21 under 35 USC §103(a) is respectfully requested.

5. Rejection of Claims 8-9 Under 35 USC §103(a) in view of U.S. Patent Nos. 7,146,421 (Syvanne) and 7,239,605 (Dinker)

This rejection is respectfully traversed on the grounds that the Dinker patent, like the Syvanne patent, does not disclose or suggest that (a) any of the router cluster nodes in the lattice are special purpose router cluster nodes arranged to perform special packet processing functions not performed by other nodes, and (b) that each of the router cluster nodes have *external* links in addition to the internal links between cluster nodes, as recited in claim 1, from which claims

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8 and 9 depend. Instead, the Dinker patent is directed to replication of data in a failed node and does not disclose any particular cluster topology (Dinker's data replication could be useful in a wide variety of cluster topologies). Therefore, withdrawal of the rejection of claims 8 and 9 under 35 USC §103(a) is requested.

6. Rejection of Claims 10 and 22-24 Under 35 USC §103(a) in view of U.S. Patent Nos. 7,146,421 (Syvanne) and 7,069,317 (Colrain)

This rejection is respectfully traversed on the grounds that the Colrain patent, like the Syvanne patent, does not disclose or suggest that (a) any of the router cluster nodes in the lattice are special purpose router cluster nodes arranged to perform special packet processing functions not performed by other nodes, and (b) that each of the router cluster nodes have *external* links in addition to the internal links between cluster nodes, as recited in original claim 1 and amended claim 17, from which claims 10 and 22-24 depend. To the contrary, the Colrain patent is directed to a notification system and method, and does not disclose any sort of cluster router. Therefore, withdrawal of the rejection of claims 10 and 22-24 under 35 USC §103(a) is requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,
BACON & THOMAS, PLLC



Date: July 7, 2008

By: BENJAMIN E. URCIA
Registration No. 33,805

